Flow Element / Flow Averaging Rings Replacement (Continued)

Step 5 Removing the Flow Element and Flow Averaging Rings

a. Remove the flow element and the flow averaging rings by lifting them out of the enclosure insert.

b. Remove the blower-to-enclosure insert seal.

c. Remove the temperature circuit.

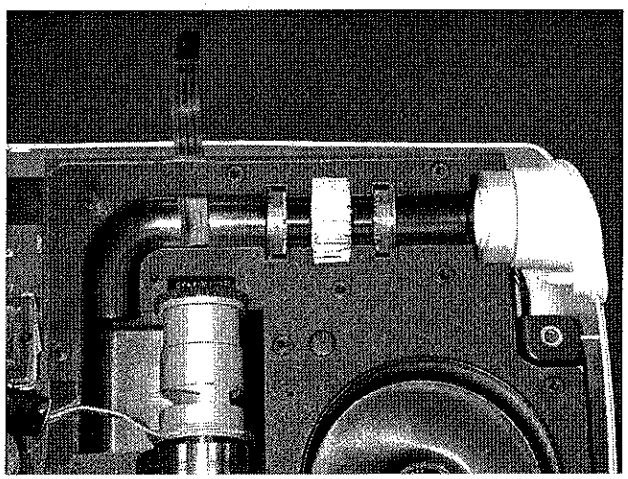


Figure 6-27
Flow Element / Flow Averaging Rings Removal

Step 5 Installing the Flow Element and Flow Averaging Rings

a. Position the temperature circuit so the sensor is in the middle of the flow path.

a. Place the enclosure-to-blower insert seal on the enclosure insert.

b. Place the flow element into the enclosure insert.

c. Place the two flow averaging rings into the enclosure insert.

NOTE: Verify notches on the flow averaging rings face the flow element.

Step 6 Installing the Valve Assembly

Install • valve assembly

(See section 6.4.9 for more detailed instructions on installing the valve assembly.)

Flow Element / Flow Averaging Rings Replacement (Continued)

Step 7 Installing the Blower Assembly

Install:
- blower assembly
- blower-to-enclosure insert seal
- fifteen screws

(See Section 6.4.8 for more detailed instruction on installing the blower assembly.)

Step 8 Installing the Outlet Port

Install
- outlet port

(See Section 6.4.7 for more detailed instructions on installing the outlet port.)

Step 9 Installing the Pressure Tubing

Install:
- pressure tubing
- mass flow sensor tubing

(See Section 6.4.6 for more detailed instructions on installing the pressure and mass flow sensor tubing.)

Step 9 Installing the Main PCA

Install:
- pressure tubing
- mass flow sensor tubing
- O_2 wire harness connector
- temperature circuit connector
- valve assembly connector
- power supply connector
- blower wire connector
- Main PCA
- five screws

(See Section 6.4.5 for more detailed instructions on installing the Main PCA

Flow Element / Flow Averaging Rings Replacement (Continued)

Step 10 Installing the Top Enclosure Assembly

Install
- control pad ribbon cable and display assembly ribbon cable connectors
- top enclosure
- three screws

(See Section 6.4.5, step 4, for more detailed instructions on installing the top enclosure assembly.)

6.4.11 Temperature Circuit Replacement

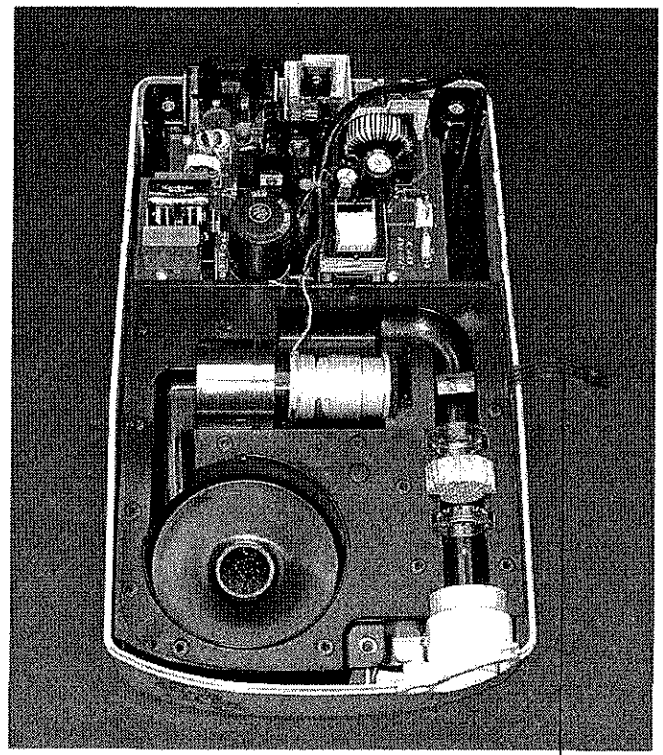
Replacement Part Number 1003522

Included in Kit:	Tools Required
Temperature Circuit	Phillips screwdriver No 2 (medium)

Procedure

Removed / Installed During Process:

- Top enclosure assembly
- Main PCA
- Blower assembly
- Valve assembly
- Flow Element
- Flow Averaging Rings
- Blower-to-Enclosure Insert Seal



Temperature Circuit
(under Blower Assembly)

Figure 6-26
Temperature Circuit

Temperature Circuit Replacement (Continued)

Step 1 Removing the Top Enclosure Assembly

Remove:
- three screws
- top enclosure
- control pad ribbon cable and display assembly ribbon cable connectors

(See Section 6.4.5, step 1, for more detailed instructions on removing the top enclosure assembly.)

Step 2 Removing the Main PCA

Remove
- five screws
- blower wire connector
- power supply connector
- valve assembly connector
- temperature circuit connector
- O_2 wire harness connector
- pressure tubing
- mass flow sensor tubing
- Main PCA

(See Section 6.4.5 for more detailed instructions on removing the Main PCA.)

Step 3 Removing the Blower Assembly

Remove
- blower assembly

(See Section 6.4.8 for more detailed instructions on removing the blower assembly.)

Step 4 Removing the Valve Assembly

Remove
- valve assembly

(See section 6.4.9 for more detailed instructions on removing the valve assembly.)

Temperature Circuit Replacement (Continued)

Step 5 Removing the Flow Element, Flow Averaging Rings

Remove
- flow element
- flow averaging rings

(See section 6.4.9 for more detailed instructions on removing the flow element and flow averaging rings.)

Step 6 Removing the Temperature Circuit

a. Remove the temperature circuit from the enclosure insert.

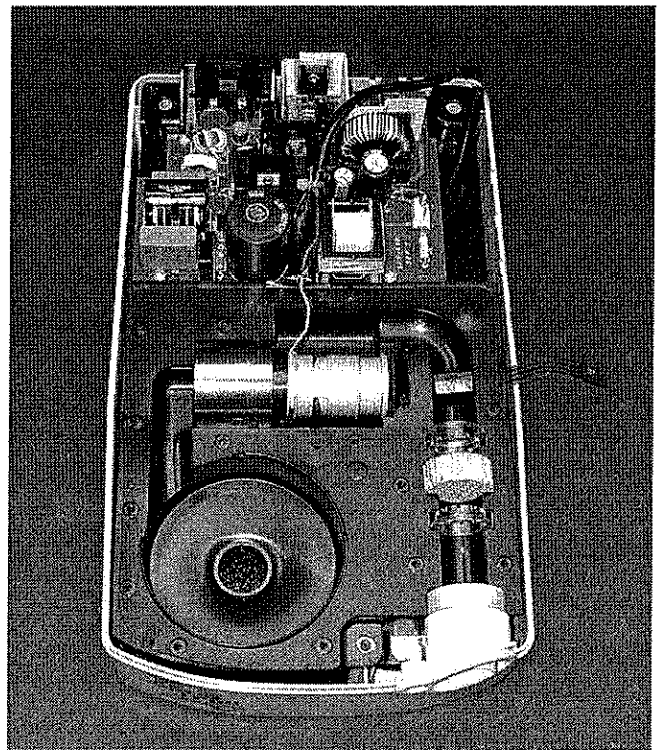


Figure 6-28
Temperature Circuit

Temperature Circuit Replacement (Continued)

Step 7 Installing the Temperature Circuit.

a. Place the temperature circuit on the enclosure insert. Verify that the sensor is centered in the flow path. Sensor component must face down.

b. Place the blower-to-enclosure insert seal on the enclosure insert.

Step 8 Installing the Flow Element and Flow Averaging Rings

Install:
- flow element
- flow averaging rings

(See Section 6.4.10 for more detailed instructions on installing the flow element and flow averaging rings.)

Step 9 Installing the Valve Assembly

Install:
- valve assembly

(See section 6.4.9 for more detailed instructions on installing the valve assembly.)

Step 10 Installing the Blower Assembly

Install:
- blower-to-enclosure insert seal
- flow element / flow averaging rings
- valve assembly
- blower assembly
- fifteen screws

(See Section 6.4.8 for more detailed instruction on installing the blower assembly.)

Step 11 Installing the Main PCA

Install:
- pressure tubing
- mass flow sensor tubing
- O^2 wire harness connector
- temperature circuit connector
- valve assembly connector
- power supply connector

- blower wire connector
- Main PCA
- five screws

(See Section 6.4.5 for more detailed instructions on installing the Main PCA.)

Step 12 Installing the Top Enclosure Assembly

Install:
- control pad ribbon cable and display assembly ribbon cable connectors
- top enclosure
- three screws

(See Section 6.4.5 for more detailed instructions on installing the top enclosure assembly.)

6.4.12 Power Supply Printed Circuit Assembly Replacement

CAUTION: Due to required testing after replacement, this item is only replaceable at a Respironics Service Center equipped with a Multi Function Calibration Station.

Replacement Part Number 1003515

Included in Kit:	Tools Required:
Power supply PCA 6-13 x 1/4" screw (x4)	Phillips screwdriver No2 (medium)

Procedure

Removed / Installed During Process:

- Top enclosure assembly
- Main PCA
- Power supply PCA

WARNING: Electrical shock hazard: Disconnect the electrical supply before attempting to make any repairs to the device.

CAUTION: Electronic components used in this device are subject to damage from static electricity. Repairs made to this device must be performed only in an antistatic, ESD-protected environment.

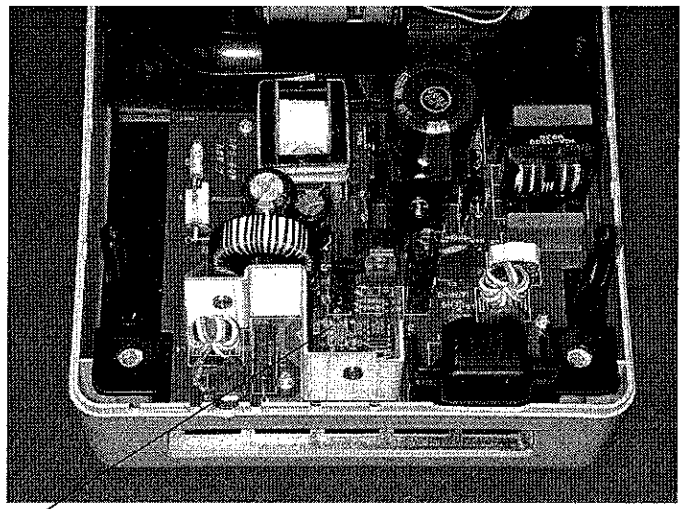


Figure 6-26
Power Supply

Power Supply PCA Replacement (Continued)

Step 1 Removing the Top Enclosure Assembly

Remove:
- three screws
- top enclosure
- control pad ribbon cable and display assembly ribbon cable connectors

(See Section 6.4.5, step 1, for more detailed instructions on removing the top enclosure assembly.)

Step 2 Removing the Main PCA

Remove:
- five screws
- blower wire connector
- power supply connector
- valve assembly connector
- temperature circuit connector
- O^2 wire harness connector
- pressure tubing
- mass flow sensor tubing
- Main PCA

(See Section 6.4.5 for more detailed instructions on removing the Main PCA.)

Step 3 Removing the Power Supply PCA

a. Using a Phillips screwdriver, remove the four screws securing the power supply PCA to the enclosure insert.

b. While holding the enclosure insert in place, lift the power supply PCA from the enclosure insert. It will be necessary to guide the AC input power receptacle from the cutout in the enclosure insert.

Power Supply PCA Replacement (Continued)

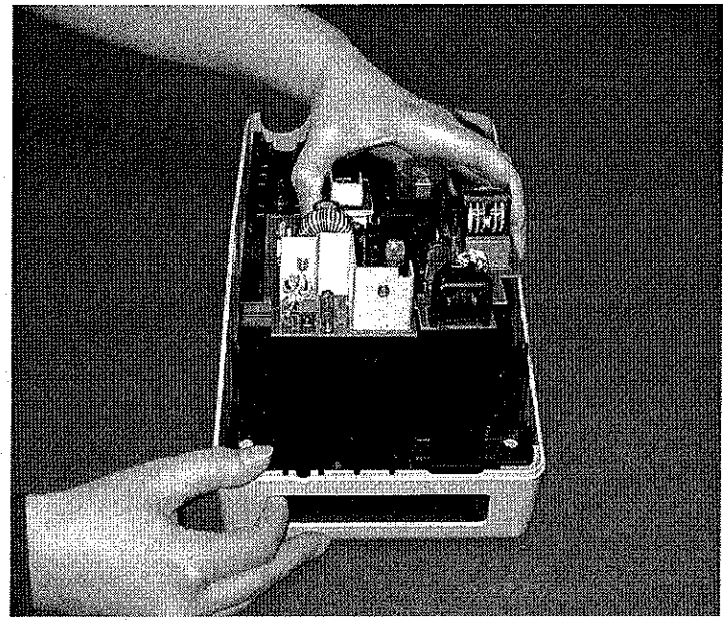


Figure 6-27
Removing the Power Supply PCA

Step 4 Installing the Power Supply PCA

a. Align the holes in the power supply PCA with the holes in the enclosure insert. Note that the AC power input receptacle must be guided into the cutout in the enclosure insert.

b. Insert and tighten the four screws provided to secure the power supply PCA to the enclosure insert.

Step 5 Installing the Main PCA

Install:

- pressure tubing
- mass flow sensor tubing
- O_2 wire harness connector
- temperature circuit connector
- valve assembly connector
- power supply connector
- blower wire connector
- Main PCA
- five screws

(See Section 6.4.5 for more detailed instructions on installing the Main PCA.)

Step 6 Installing the Top Enclosure Assembly

Install:

- control pad ribbon cable and display assembly ribbon cable connectors
- top enclosure
- three screws

(See Section 6.4.5, step 4, for more detailed instructions on installing the top enclosure assembly.)

6.4.13 Enclosure Insert Replacement

CAUTION: Due to required testing after replacement, this item is only replaceable at a Respironics Service Center equipped with a Multi Function Calibration Station.

Replacement Part Number 622184

Included in Kit:	Tools Required:
Enclosure insert	Phillips screwdriver No2 (medium)
Blower-to-enclosure insert seal	Torque wrench (in-lbs.)

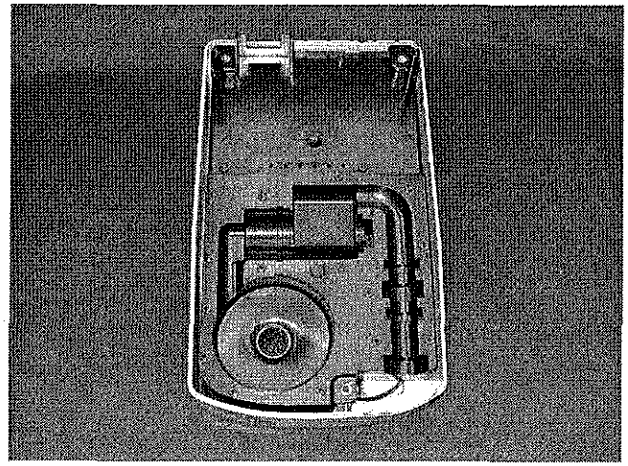
Procedure

Removed / Installed During Process:

- Top Enclosure assembly
- Outlet Port
- Valve Assembly
- Flow Averaging Rings
- Power supply PCA
- Main PCA
- Blower Assembly
- Flow Element
- Temperature Circuit
- Enclosure insert

WARNING: Electrical shock hazard: Disconnect the electrical supply before attempting to make any repairs to the device.

CAUTION: Electronic components used in this device are subject to damage from static electricity. Repairs made to this device must be performed only in an antistatic, ESD-protected environment.



Enclosure Insert

Figure 6-28
Enclosure Insert

Enclosure Insert Replacement (Continued)

Step 1 Removing the Top Enclosure Assembly

Remove:
- three screws
- top enclosure
- control pad ribbon cable and display assembly ribbon cable connectors

(See Section 6.4.5, step 1, for more detailed instructions on removing the top enclosure assembly.)

Step 2 Removing the Main PCA

Remove:
- five screws
- blower wire connector
- power supply connector
- valve assembly connector
- temperature circuit connector
- O^2 wire harness connector
- pressure tubing
- mass flow sensor tubing
- Main PCA

(See Section 6.4.5 for more detailed instructions on removing the Main PCA.)

Step 3 Removing the Outlet Port

Remove
- outlet port

(See Section 6.4.8 for more detailed instructions on removing the blower assembly.)

Step 4 Removing the blower Assembly

Remove:
- fifteen screws
- blower assembly
- blower-to-enclosure insert seal

(See Section 6.4.8 for more detailed instructions on removing the blower assembly.)

Enclosure Insert Replacement (Continued)

Step 5 Removing the Valve Assembly

Remove • valve assembly

(See section 6.4.9 for more detailed instructions on removing the valve assembly.)

Step 6 Removing the Flow Element, Flow Averaging Rings

Remove • flow element

• flow averaging rings

(See section 6.4.9 for more detailed instructions on removing the flow element and flow averaging rings.)

Step 7 Removing the Temperature Circuit

Remove • temperature circuit

Enclosure Insert Replacement (Continued)

Step 8 Removing the Power Supply PCA

Remove: • four screws

• power supply PCA

(See Section 6.4.10 for more detailed instructions on removing the power supply PCA.)

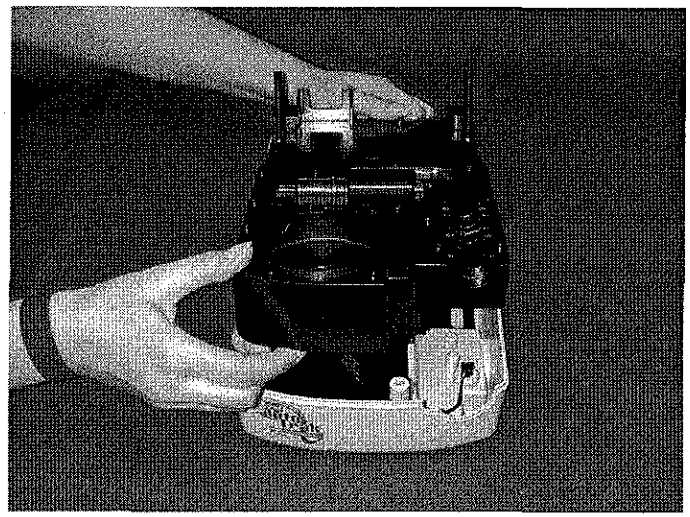


Figure 6-29
Enclosure Insert Removed

Step 9 Removing the Enclosure Insert

a. While holding the bottom enclosure in place, lift the enclosure insert out of the bottom enclosure

Step 10 Installing the Enclosure Insert

a. Align the enclosure insert then place it into the bottom enclosure.

Step 11 Installing the Power Supply PCA

Install:
- power supply PCA
- four screws

(See Section 6.4.10 for more detailed instructions on installing the power supply PCA.)

Step 12 Installing the Temperature Circuit.

a. Place the temperature circuit on the enclosure insert. Verify that the sensor is centered in the flow path. Sensor component must face down.

b. Place the blower-to-enclosure insert seal on the enclosure insert.

Step 13 Installing the Flow Element and Flow Averaging Rings

Install:
- flow element
- flow averaging rings

(See Section 6.4.10 for more detailed instructions on installing the flow element and flow averaging rings.)

Step 14 Installing the Valve Assembly

Install:
- valve assembly

(See section 6.4.9 for more detailed instructions on installing the valve assembly.)

Step 15 Installing the Blower Assembly

Install:
- blower-to-enclosure insert seal
- blower assembly
- fifteen screws

(See Section 6.4.8 for more detailed instructions on installing the blower assembly.)

Enclosure Insert Replacement (Continued)

Step 16 Installing the Outlet Port

Install:
- outlet port

(See Section 6.4.7 for more detailed instructions on installing the outlet port.)

Step 17 Installing the Main PCA

Install:
- pressure tubing
- mass flow sensor tubing
- O_2 wire harness connector
- temperature circuit connector
- valve assembly connector
- power supply connector
- blower wire connector
- Main PCA
- five screws

(See Section 6.4.5 for more detailed instructions on installing the Main PCA.)

Step 19 Installing the Top Enclosure Assembly

Install:
- control pad ribbon cable and display assembly ribbon cable connectors
- top enclosure
- three screws

(See Section 6.4.5, step 4, for more detailed instructions on installing the top enclosure.)

Chapter 7: Testing

7.1 Overview 7-3

7.2 Performance Verification 7-3

7.3 Oxygen Module Verification 7-6

7.4 Performance Verification Data Sheet 7-7

7.5 Calibration and Final Testing 7-8

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Chapter 7: Testing

7.1 Overview

This chapter provides guidelines and procedures to do performance verification on the BiPAP Synchrony System.

7.2 Performance Verification

WARNING: To avoid electrical shock, disconnect the electrical supply before attempting to clean the Synchrony. DO NOT immerse the unit in water or allow any liquid to enter the cabinet or the filter intake.

CAUTION: Electronic components used in this device are subject to damage from static electricity. Use and follow appropriate Electro-Static Discharge (ESD) procedures.

Equipment

Digital Manometer
BiPAP Test Orifice
Mild Soap Solution

Step 1 Wipe the outside of the unit with a cloth slightly dampened with water and a mild detergent. Let the unit dry before reconnecting the electrical supply.

Step 2 The gray foam filter is a reusable filter that screens out pollens and some household dust. This filter should be cleaned at least every two weeks by the patient and replaced every six months by the patient. The gray foam filter should also be replaced when the Synchrony is being placed on a new patient. The gray foam filter must be in place at all times when the unit is operating.

The disposable white ultra-fine filter increases filtration of pollens, dust, some tobacco smoke, and small particles. The ultra-fine filter should be used in addition to the gray foam filter. The ultra-fine filter should never be used with out the gray foam filter. The patient should replace the ultra-fine filter after 30 days of use or sooner if it appears dirty. The ultra-fine filter should be replaced when the Synchrony is being placed on a new patient.

CAUTION: Failure to replace a dirty filter may cause the device to operate at higher than normal temperatures and damage the device.

Step 3 Attach the 0.25 BiPAP test orifice to the outlet port. Connect the Synchrony to the proper line voltage. If the unit under test is an international unit , test the unit at the voltage for that specific country.

Step 4 Start the Synchrony by pressing the On / Off key. The Synchrony will go through a Self Test. Record the hours (blower hours) shown on the Display during the Self Test.

Step 4 Enter the SETUP mode. Simultaneously press the Ramp Start / Alarm Silence Key and the Enter Key. Hold the two keys down for three seconds. Select Options by pressing the down arrow until the select arrow is pointing to Options and then press the Enter Key.

Step 5 Select the Time At Pressure on the display screen. Record the Time at Pressure hours. If placing the Synchrony on a new patient, erase the Time at Pressure.

Step 6 Turn the Synchrony off. Connect a manometer to the pressure pick-off port on the test orifice. Press the On /Off switch and allow the unit to go through the Self Test. Once the Self Test is complete, enter the Setup mode (see Section 4.2.3).

NOTE: After entering the Setup Mode use the following to set and change parameters:

a. Use the Up and Down key to move the select indicator to Mode. Press the Enter key.

b. Press the Enter key, then the Up or Down key to select the Spontaneous (S) Mode. Press the Enter key. Press the Exit Key

c. Use the Up and Down key to move the select indicator to Parameters. Press the Enter key.

d. Press the Enter key then the Up or Down key to set the IPAP pressure to 10 cm H_2O. Press the Enter key.

e. Press the Enter key then the Up or Down key to set the EPAP pressure to 5 cm H_2O. Press the Enter key.

f. Press the Down key once to move the select indicator to Rise Time. Press the Enter key. Press the Up or Down key to set the Rise Time to 6. Press the Enter key.

g. Press the Down key then press the Enter key. Press the Up or Down key to set the Vent Ramp to 1 cm H_2O. Press the Enter key.

h. Press the Enter key to Exit the settings.

Step 7 **Pressure Verification**

Occlude the outlet of the unit for 4 seconds then unocclude the outlet for 4 seconds. Do this several times while observing the manometer reading and the Synchrony display. The indicator on the display should toggle between IPAP and EPAP. Record the manometer readings on the data sheet for IPAP and EPAP.

Repeat steps 6 and 7 for the other pressures on the Data sheet. Record the results on the Data Sheet provided.

Step 8 **Vent Ramp Verification**

Occlude the outlet of the unit for 3 seconds then unocclude the outlet for 3 seconds. Do this several times while observing the manometer reading and the Synchrony display. The indicator on the display should toggle between IPAP and EPAP. Press the Ramp Key. The ramp indicator will appear on the display screen. The IPAP should decrease to 16 cm H_2O. The IPAP will then increase 1cm H_2O with every IPAP cycle. Record the results on the data sheet provided.

7.3 Oxygen Module Verification

Equipment

External Pressure Source (CPAP)

Digital Manometer

O_2 Enrichment Port (RI P/N 312010)

End Cap or Plug (x2)

Pressure Tubing (1/8″ I.D.((x3)

1/8 inch "T" fitting

NOTE: Synchrony setup will remain the same as in **Step 7** of the Performance Verification.

Procedure

Step 1 Place an O_2 enrichment port on the outlet of the external pressure source (CPAP) and occlude the port with one of the end caps.

Step 2 Connect one of the three pieces of pressure tubing from the O_2 enrichment port of the external pressure source to the pressure port intake of the oxygen module on the Synchrony.

Step 3 Connect the second piece of pressure tubing from the manometer to the "T" fitting.

Step 4 Connect the third piece of pressure tubing to the "T" fitting and to the remaining open pressure port on the oxygen module.

Step 5 Turn on the external pressure source (CPAP). Observe the manometer to assure that there is no flow going to the manometer.

Step 6 Block the third opening of the "T" fitting with your finger and press the blower On / Off button to start the Synchrony.

Step 7 Observe the manometer to verify a change in flow coming from the external pressure source. Press the On / Off button to stop the Synchrony. Remove your finger from the "T" fitting for three seconds and then reocclude the fitting. Observe that the flow from the external pressure source has stopped.

Step 8 Repeat Step 6.

Step 9 Observe the manometer to verify a change in flow coming from the external pressure source. Unplug the AC power cord from the Synchrony. Remove your finger from the "T" fitting for three seconds and then reocclude the fitting. Observe that the flow coming from the external pressure source has stopped.

Step 10 Mark Pass or Fail on the data sheet.

7.4 Performance Verification Data Sheet

NOTE: Performance Verification may be used as a way to determine that the BiPAP Synchrony System is functioning properly. This verification shall be performed at periodic intervals commensurate with hospital or home care provider guidlines for preventive maintenance: between rentals, during normal patient usage (as routine maintenance), or after repairs have been performed on the BiPAP Synchrony System.

Serial No. _____ **Notification No.** _____ **Line Voltage** _____

2 **Pollen Filter Cleaned / Replaced** _____ **Ultra Fine Filter Replaced** _____

4 **Blower Hrs.** _____ 5 **Time @ Pressure Hrs.** _____

7 **Pressure Settings IPAP / EPAP**

IPAP PRESSURE	EPAP PRESSURE
10 cm H_2O _____ (9 - 11cm H_2O)	5 cm H_2O _____ (4 - 6 cm H_2O)
15 cm H_2O _____ (14 - 16 cm H_2O)	10 cm H_2O _____ (9 - 11 cm H_2O)
20 cm H_2O _____ (19 - 21cm H_2O)	15 cm H_2O _____ (14 - 16 cm H_2O)

8 **Vent Ramp Pass / Fail** _____

9 **Technicians Signature (in ink)** _____ **Date** _____ / _____ / _____

10 **Optional Oxygen Module Verification** **Pass / Fail** _____

7.5 Calibration and Final Testing

NOTE: Calibration and Final Testing can only be performed at a Respironics Service Center equipped with a Multi-Functional Test Station.

CAUTION: Due to required calibration after parts replacement, the following may not be field replaced unless the unit is Final Tested at a Respironics Service Center equipped with a Multi Functional Calibration Station.

- Main Printed Circuit Assembly (Main PCA)
- Power Supply Printed Circuit Assembly
- Blower Assembly
- Enclosure Insert
- Pressure Tubing
- Mass Flow Sensor Tubing
- Valve Assembly
- Flow Element
- Flow Averaging Rings
- Temperature Circuit

For technical assistance or replacement part ordering information contact Respironics World Wide Technical Service.

U.S. and Canada

Phone: 1-800-345-6443
Fax: 1-800-422-5816

International

Phone: 1-412-631-2100
Fax: 1-412-463-5012

Visit Respironics Home Page on the World Wide Web at:

www.respironics.com

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Chapter 8: Optional Oxygen Module Repair and Replacement

8.1 Overview 8-3

8.2 BiPAP Synchrony Repair Kit 8-4

8.3 Warnings and Cautions 8-5

8.4 Replacement Instructions 8-6

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Chapter 8: Optional Oxygen Module Repair and Replacement

8.1 Overview

The following section describes the replacement procedures for the optional oxygen module available on the BiPAP Synchrony System. For more detailed removal and installation instructions for the components not covered in this chapter, see chapter 6.

CAUTION: Due to required calibration after parts replacement, the following may not be field replaced unless the unit is Final Tested at a Respironics Service Center equipped with a Multi Functional Calibration Station

- Main Printed Circuit Assembly (Main PCA)
- Power Supply Printed Circuit Assembly
- Blower Assembly
- Enclosure Insert
- Pressure Tubing
- Mass Flow Sensor Tubing
- Valve Assembly
- Flow Element
- Flow Averaging Rings
- Temperature Circuit

8.2 BiPAP Synchrony System Repair Kit

Replacement Part	Replacement Part No.	Page No.
Oxygen Module Accessory / Repair Includes: • Oxygen Module • Oxygen Module Wiring Harness	1000348	8-9

8.3 Warnings and Cautions

WARNING: To prevent electrical shock, disconnect the electrical supply before attempting to make any repairs to the Synchrony system.

CAUTION: Electronic components used in this unit are subject to damage from static electricity. Repairs made to this unit must be performed only in an antistatic, Electro-Static Discharge (ESD) - protected environment.

CAUTION: Due to required calibration after parts replacement, the following may not be field replaced unless the unit is System Final Tested on a Multi-Functional Calibration Station.

- Main Printed Circuit Assembly
- Power Supply Printed Circuit Assembly
- Blower Assembly
- Enclosure Insert
- Pressure Tubing
- Mass Flow Sensor Tubing
- Valve Assembly Assembly
- Flow Element
- Flow Averaging Rings
- Temperature Circuit

8.4 Replacement Instructions

Replacement Part Number 1000348

Included in Kit:	Tools Required:
Oxygen Module 3-8 x 3 / 4" screws (x2)	Phillips screwdriver No 2 (medium)

Procedure

Removed / Installed During Process

- Oxygen Module

WARNING: Electrical shock hazard: Disconnect the electrical supply before attempting to make any repairs to the device.

CAUTION: Electronic components used in this device are subject to damage from static electricity. Repairs made to this device must be performed only in an antistatic, ESD-protected environment.

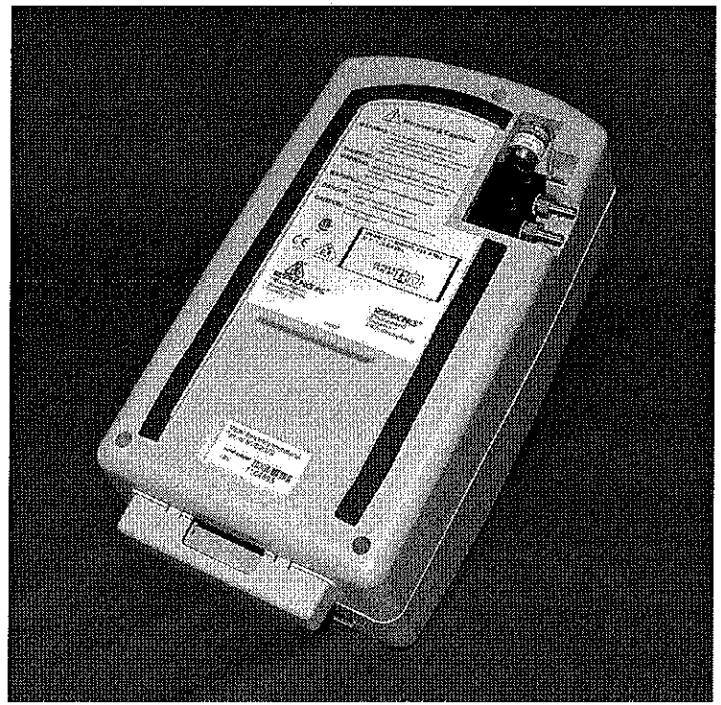

Figure 8-1
Oxygen Module

Oxygen Module Replacement (Continued)

Step 1 Removing the Oxygen Module

a. Place the unit upside down on a protected work surface.

b. Using a Phillips screwdriver, remove the two screws that secure the oxygen module in the bottom enclosure.

c. Lift the oxygen module slightly out of the bottom enclosure.

NOTE: The oxygen module wires are still connected to the oxygen module wiring harness.

d. Depress the locking tabs then remove the oxygen module wire connector from the female receptacle on the oxygen module wiring harness.

e. Remove the oxygen module from the bottom enclosure.

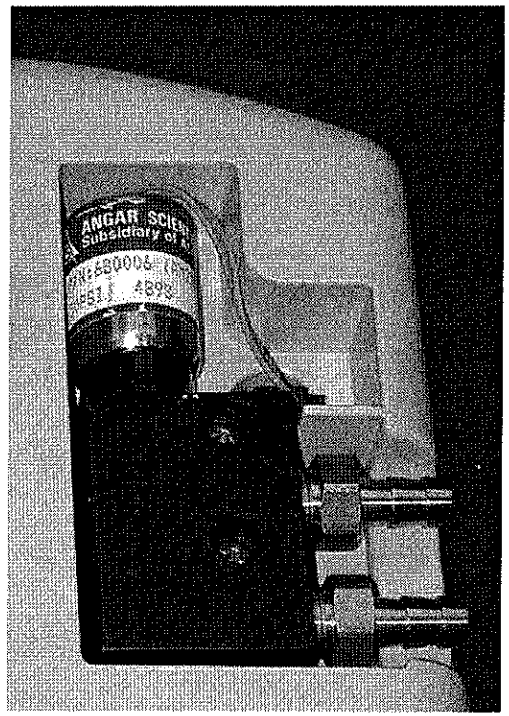

Figure 8-2
Removing the Oxygen Module

Oxygen Module Replacement (Continued)

Step 2 Installing the Oxygen Module

a. Insert the oxygen module wire connector into the female receptacle on the oxygen module wiring harness.

b. Align the oxygen module with the mounting holes in the bottom enclosure.

c. Install and tighten the two screws provided to secure the oxygen module in the bottom enclosure.

Appendix A: Tools and Equipment

A.1 Service Tools and Supplies A-3

A.2 Acceptable Test Equipment A-4

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Appendix A: Tools and Equipment

CAUTION: Due to required calibration after parts replacement, the following may not be field replaced on the BiPAP Synchrony unless the unit is System Final Tested at a Respironics Service Center equipped with a Multi Functional Calibration Station:

- Main Printed Circuit Assembly
- Power Supply Printed Circuit Assembly
- Blower Assembly
- Enclosure Insert
- Pressure Tubing (internal)
- Mass Flow Sensor Tubing
- Valve Assembly
- Flow Element
- Flow Averaging Rings
- Temperature Circuit

A.1 Service Tools and Supplies

You should have the following hand tools and supplies available for troubleshooting, testing, and repairing the BiPAP Synchrony system.

- Common Hand Tools

  Flat-blade screwdriver - small

  Phillips screwdriver - No 2 medium

- Antistatic, Electro-Static Discharge (ESD)-protected work station - minimum requirement is a grounded
- Cleaning Cloth
- Digital Manometer - see Section A.2
- End Cap (supplied with unit)
- Isopropyl alcohol
- Mild Detergent
- O_2 Enrichment Port (RI P / N 312010)

Acceptable Test Equipment (Continued)

- Test Orifice (RI P / N 622244)
- Whisper Swivel II (RI P / N 332113
- Torque wrench (in - lbs.)

A.2 Acceptable Test Equipment

A.2.1 Digital Manometer

Specifications:

0 - 25 cm H_2O (or better)

±0.3 cm H_2O accuracy

±0.1 cm H_2O resolution

Acceptable Options:

- Respironics Digital Manometer (RP P/N 302227)
- Merical DP2001
- Sensym PDM 200CD
- RT - 200
- Any commercially available digital manometer that meets the above specifications.

* A water column manometer may also be used.

A.2.3 Digital Multimeter

Specifications:

2.5 digit readout minimum

0.0 - 20.0 VDC

0.0 - 25.0 VAC

Acceptable Options:

- Fluke 83 or better model
- Any commercially available power supply that meets the above specifications.

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Appendix B: Schematics

B.1 Schematic Statement

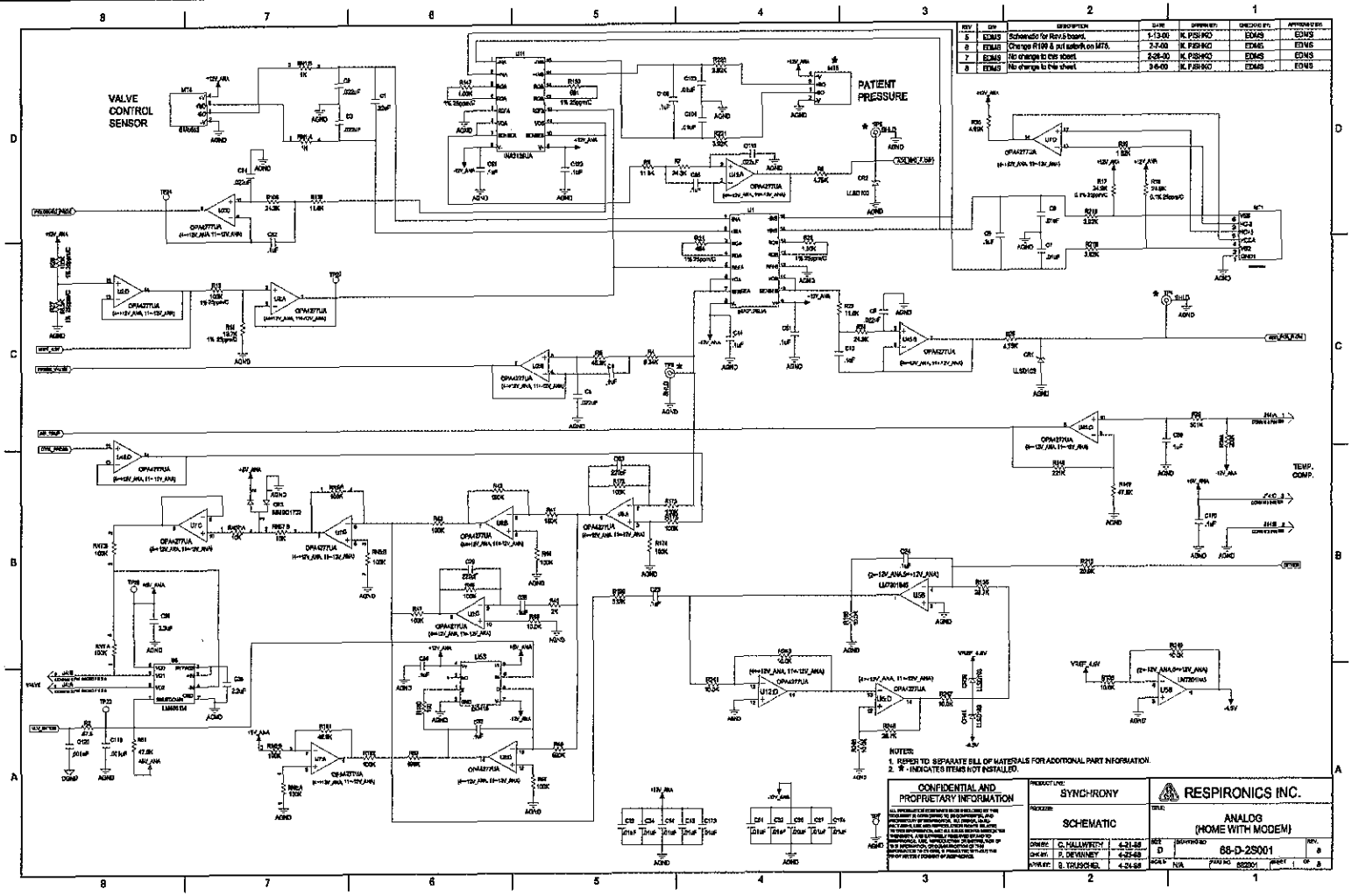
Schematics are supplied with this manual in direct support of the sale and purchase of this product.

The schematics are proprietary and confidential. Do not copy the schematics or disclose them to third parties beyond the purpose for which they are intended. Patents are pending.

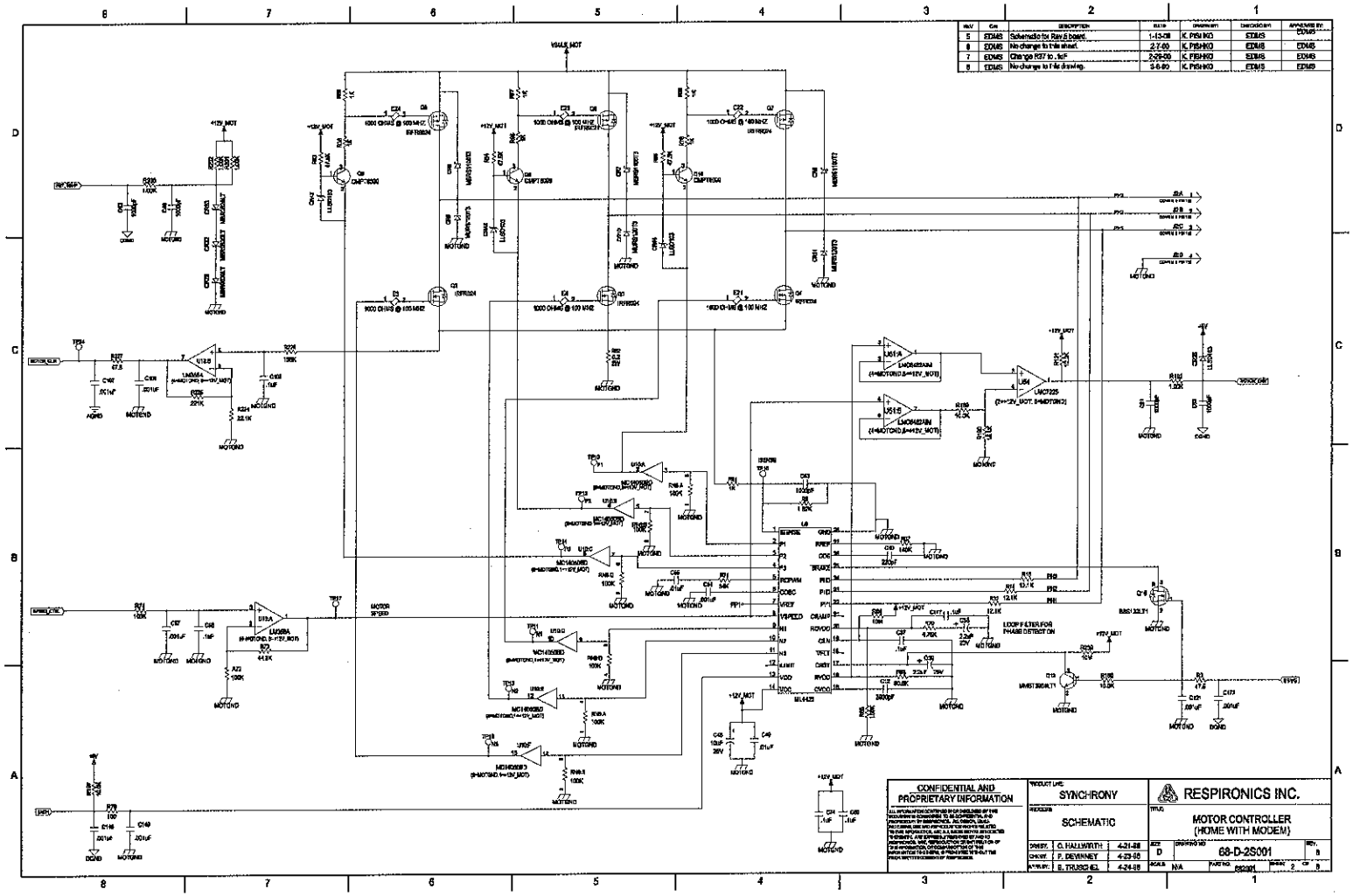
The schematics are intended to satisfy administrative requirements only. They are not intended to be used for component level testing and repair. Any changes of components could effect the reliability of the device, prohibit lot tracking of electronic components, and void warranties. Repairs and testing are supported only at the complete board level.

The schematics are of the revision level in effect at the time this manual was last revised. New revisions may or may not be distributed in the future.

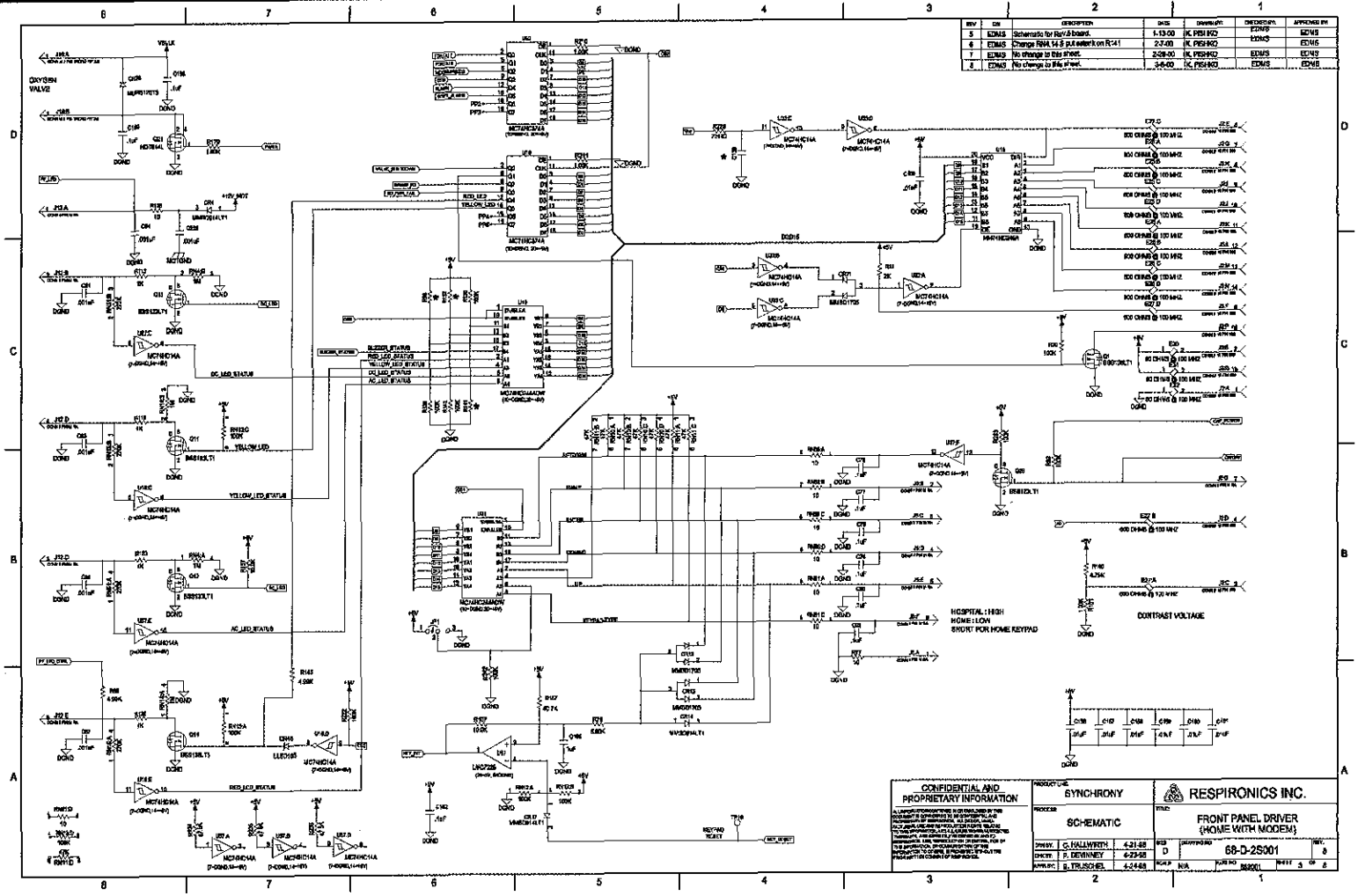
NOTE: The power supply PCA is a purchased item. The schematic is not available for distribution.



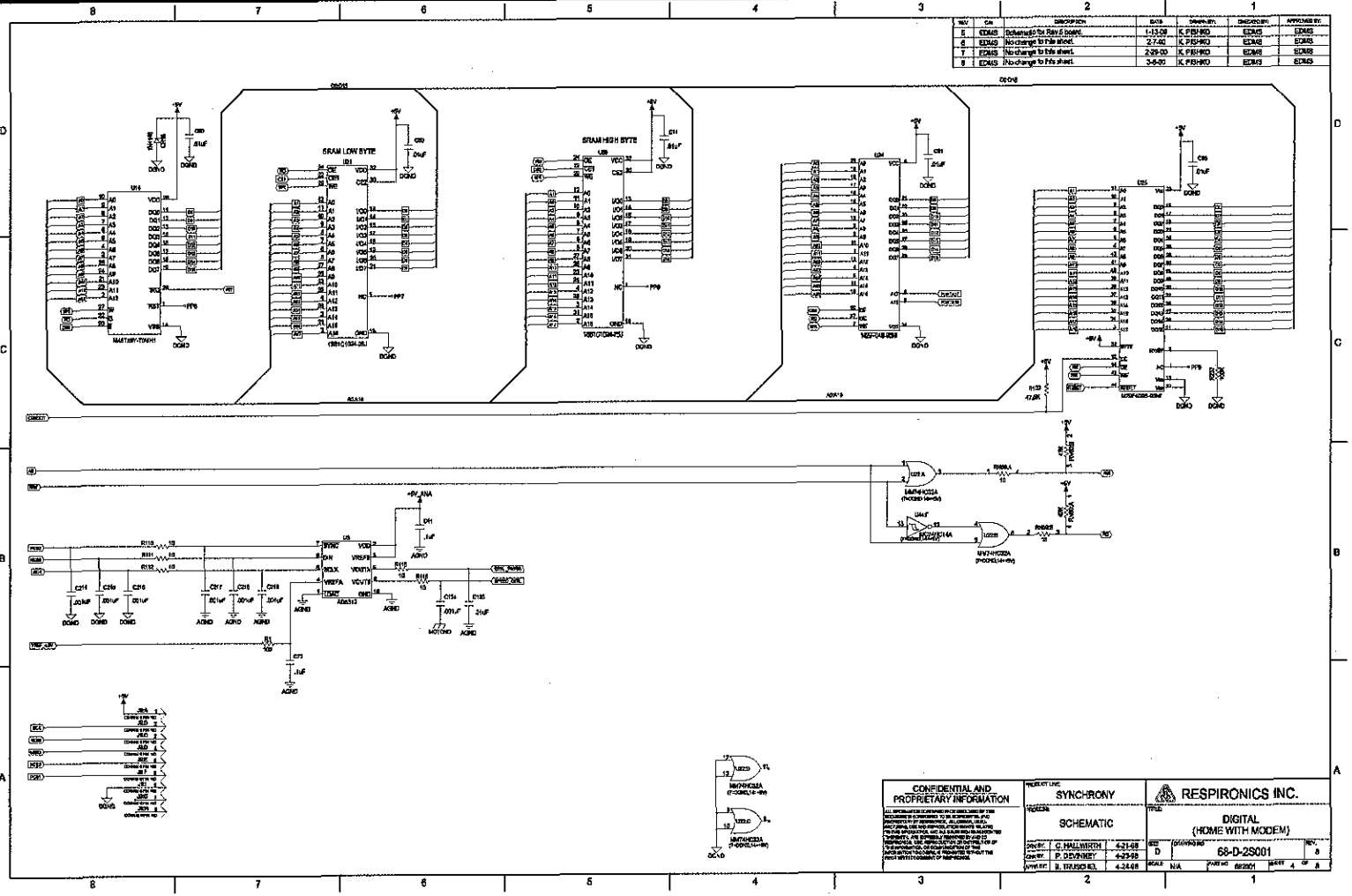
Analog (Home With Modem)



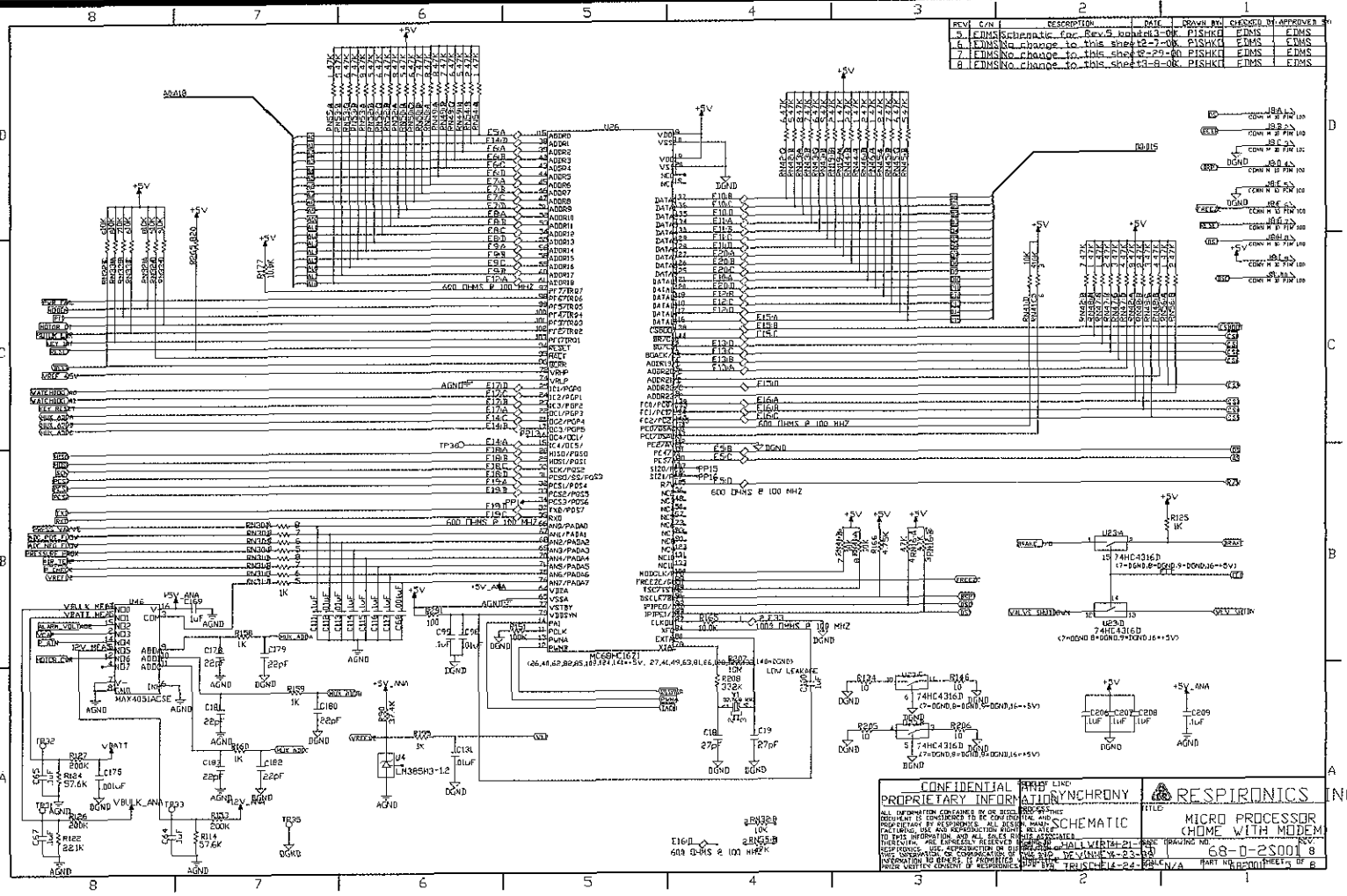
Motor Controller (Home With Modem)



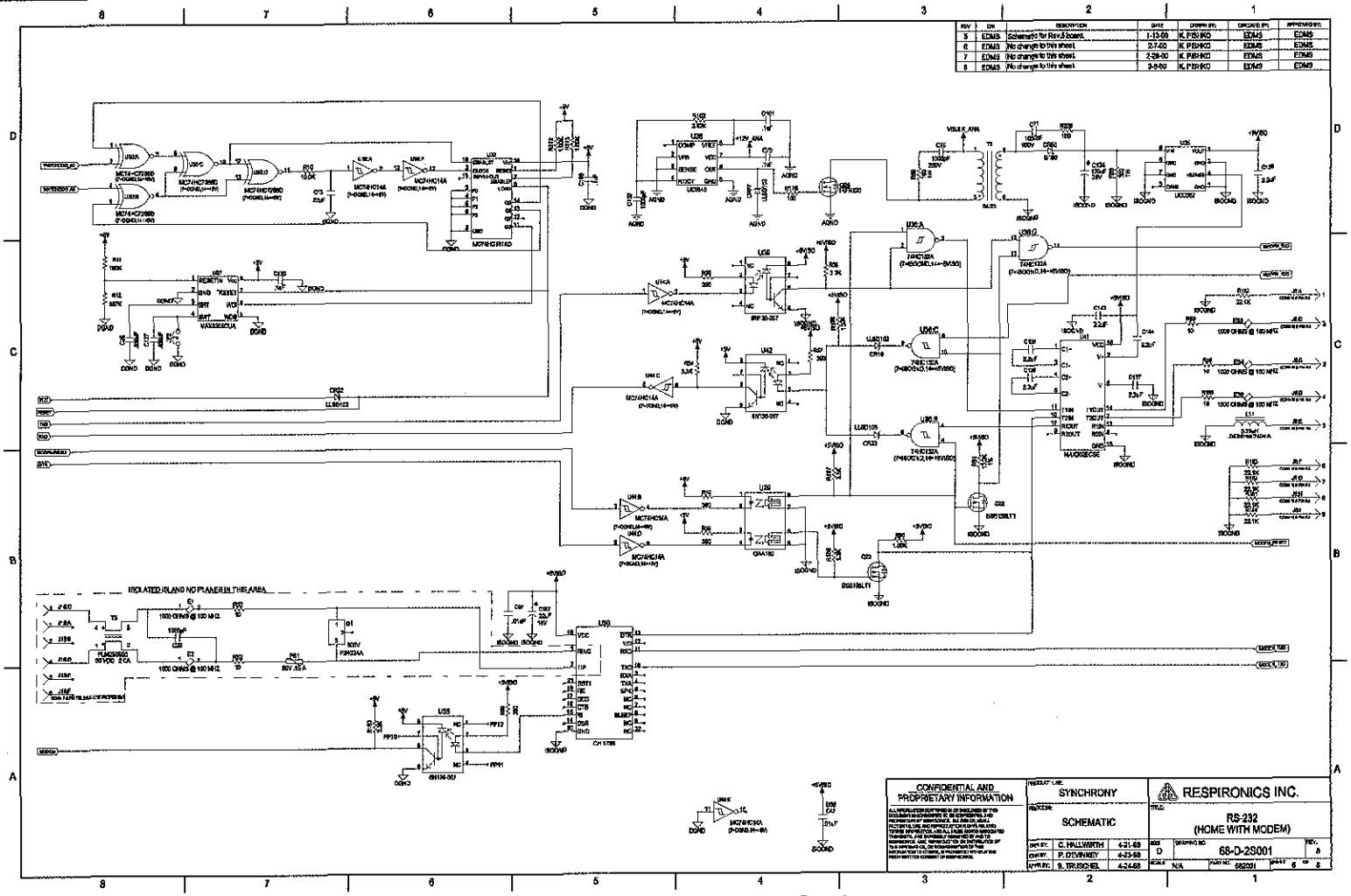
Front Panel Driver (Home With Modem)



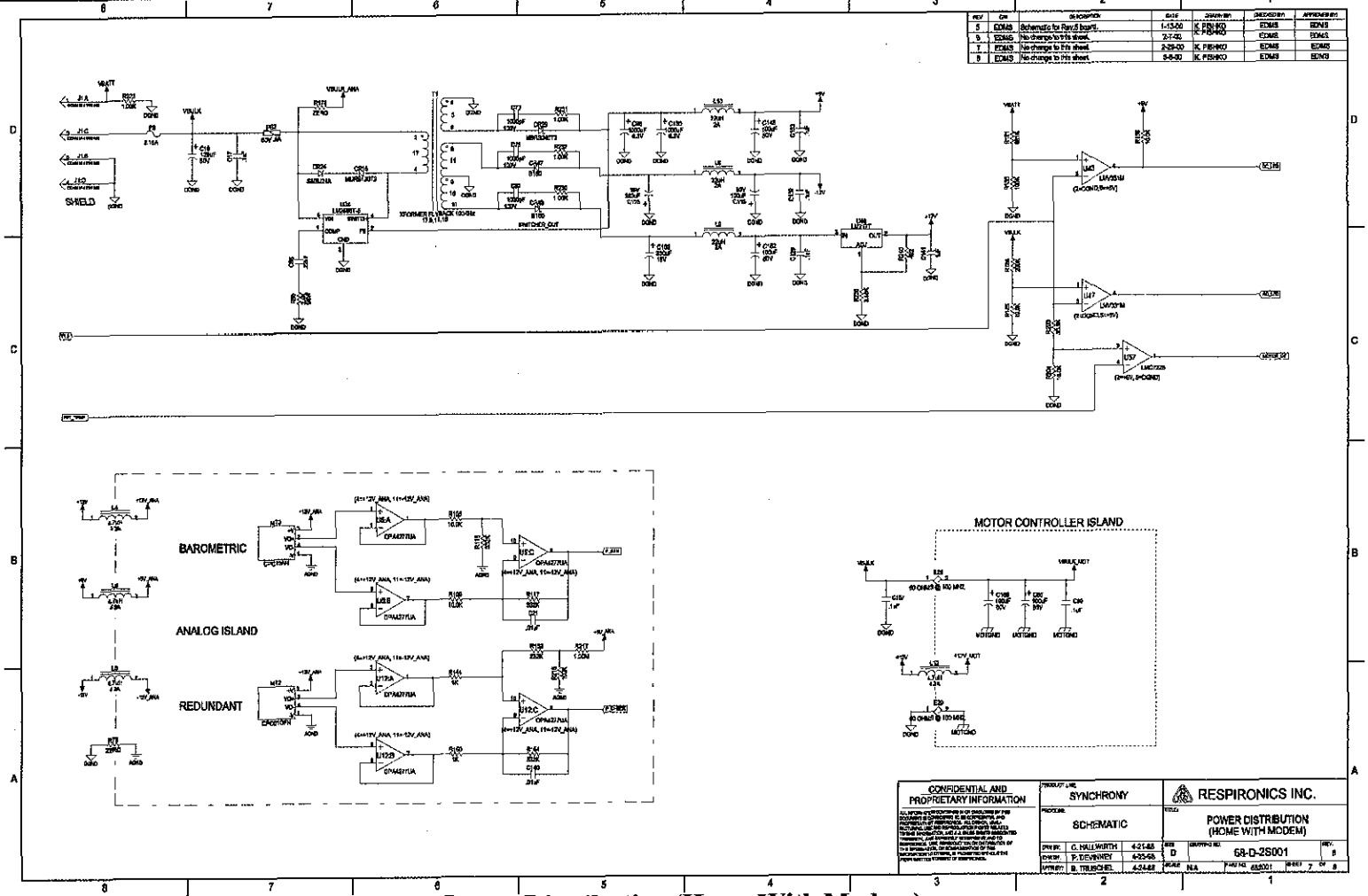
Digital (Home With Modem)


REV | S/N | DESCRIPTION | DATE | DRAWN BY | CHECKED BY | APPROVED BY
5 EDMS Schematic for Rev.5 board 3-0K PISHKO EDMS EDMS
6 EDMS No change to this sheet 2-7-00 PISHKO EDMS EDMS
7 EDMS No change to this sheet 2-29-00 PISHKO EDMS EDMS
8 EDMS No change to this sheet 3-8-00 PISHKO EDMS EDMS
CONFIDENTIAL PROPRIETARY INFORMATION
SYNCHRONY
SCHEMATIC
RESPIRONICS INC.
MICRO PROCESSOR (HOME WITH MODEM)
68-D-2S001
MAX4051ACSE
LM385M3-1.2
74HC4316D
MC68HC16Z1

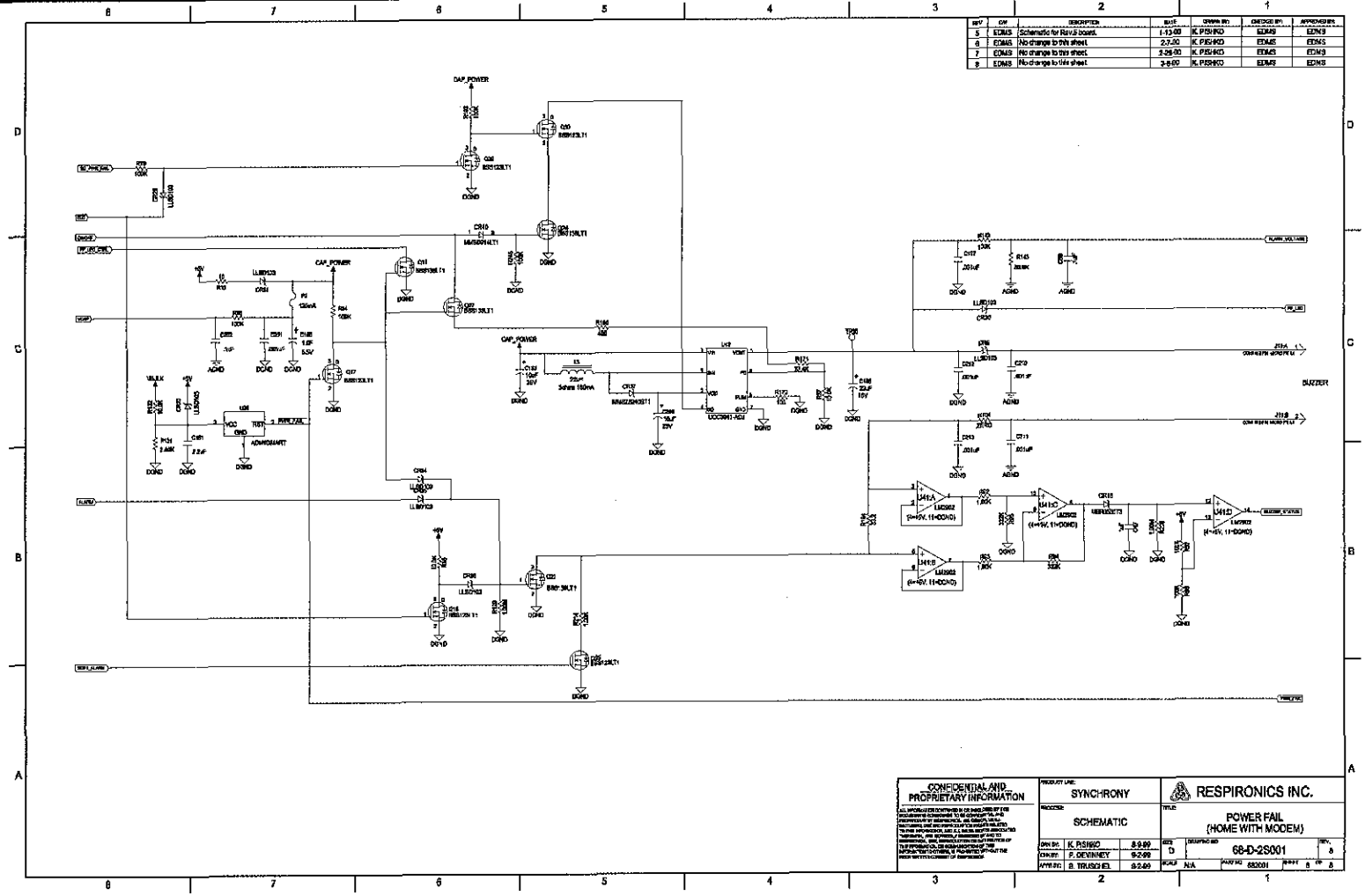
Micro Processor (Home With Modem)



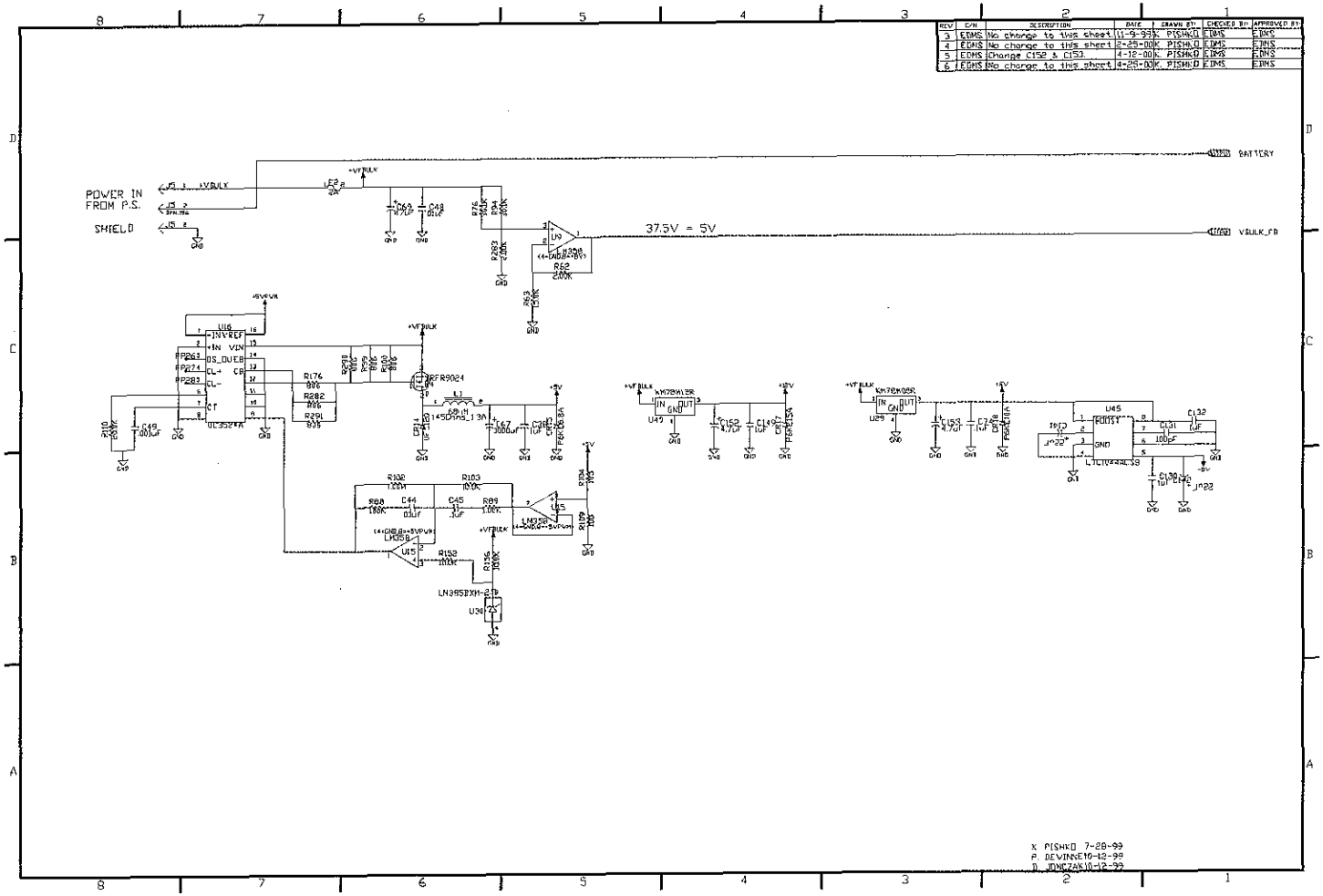
RS - 232 (Home With Modem)



Power Distribution (Home With Modem)



Power Fail (Home With Modem)



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